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 d history
     (FILE 'USPAT' ENTERED AT 08:48:38 ON 06 JUN 1997)
L1          4862 S B7#
L2            66 S CD28
L3             0 S CTL4IG
L4             8 S CTLA-4
L5            16 S L1 AND (L2 OR L4)
=>
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1. 5,633,234, May 27, 1997, Lysosomal targeting of immunogens; J. Thomas August, et al., 514/44; 424/185.1, 192.1; 435/69.3, 252.3, 320.1; 530/350, 395, 806; 536/23.4, 23.5 [IMAGE AVAILABLE]

US PAT NO: 5,633,234 [IMAGE AVAILABLE] L5: 1 of 16

ABSTRACT:
The inventors have discovered a targeting signal that will direct proteins to the endosomal/lysosomal compartment, and they have demonstrated that chimeric proteins containing a luminal antigenic domain and a cytoplasmic endosomal/lysosomal targeting signal will effectively target antigens to that compartment, where the antigenic domain is processed and peptides from it are presented on the cell surface in association with major histocompatibility (MHC) class II molecules. Chimeric DNA encoding the antigen of interest, linked to an endosomal/lysosomal targeting sequence, inserted in an immunization vector, can introduce the chimeric genes into cells, where the recombinant antigens are expressed and targeted to the endosomal/lysosomal compartment. As a result, the antigens associate more efficiently with MHC class II molecules, providing enhanced in vivo stimulation of CD4.sup.+ T cells specific for the recombinant antigen. Delivering antigens to an endosomal/lysosomal compartment by means of chimeric constructs containing such lysosomal targeting signals will be of value in any vaccination or immunization strategy that seeks to stimulate CD4.sup.+ MHC class II restricted immune responses.

2. 5,627,025, May 6, 1997, Method for the identification of compounds capable of abrogating human immunodeficiency virus (HIV) infection of dendritic cells and T-lymphocytes; Ralph M. Steinman, et al., 435/5, 7.2, 7.24; 436/63 [IMAGE AVAILABLE]

US PAT NO: 5,627,025 [IMAGE AVAILABLE] L5: 2 of 16

ABSTRACT:
The present invention relates to the role of dendritic cells in facilitating productive human immunodeficiency virus (HIV) infection. Experimentally, productive infection with HIV-1 requires that virus be administered to T cells that are activated by mitogens. This application describes a productive milieu for HIV-1 infection within the confines of normal epithelial tissue that does not require standard stimuli. The milieu consists of dendritic cells and T cells that emigrate from skin and produce distinctive stable, nonproliferating conjugates. These conjugates, upon exposure to HIV-1, begin to release high levels of virus progeny. Numerous infected syncytia, comprised of both dendritic cells and T cells, rapidly develop. A method is disclosed for the identification of agents capable of inhibiting HIV transmission and

chronic infection of dendritic cells and T lymphocytes found in epithelial tissues.

3. 5,624,899, Apr. 29, 1997, Method for using Htk ligand; Brian D. Bennett, et al., 514/12, 2; 530/350 [IMAGE AVAILABLE]

US PAT NO: 5,624,899 [IMAGE AVAILABLE] L5: 3 of 16

ABSTRACT:
A novel hepatoma transmembrane kinase receptor ligand (Htk ligand) which binds to, and activates, the Htk receptor is disclosed. As examples, mouse and human Htk ligands have been identified in a variety of tissues using a soluble Htk-Fc fusion protein. The ligands have been cloned and sequenced. The invention also relates to nucleic acids encoding the ligand, methods for production and use of the ligand, and antibodies directed thereto.

4. 5,618,536, Apr. 8, 1997, Chimeric papillomavirus-like particles; Douglas R. Lowy, et al., 424/192.1, 204.1; 435/69.1, 69.3, 235.1, 236, 254.2, 317.1, 320.1, 325, 348; 530/412, 413; 536/23.4, 23.72 [IMAGE AVAILABLE]

US PAT NO: 5,618,536 [IMAGE AVAILABLE] L5: 4 of 16

ABSTRACT:
The present invention provides a papillomavirus-like particle, characterized as having conformational epitopes, comprising a papillomavirus L1 product and a papillomavirus L2 fusion product; and related synthetic DNA molecules, host cells, methods and vaccines.

5. 5,616,491, Apr. 1, 1997, Knockout mice; Tak W. Mak, et al., 435/354, 172.3, 320.1, 355; 536/23.1; 800/2, DIG.1; 935/22, 70 [IMAGE AVAILABLE]

US PAT NO: 5,616,491 [IMAGE AVAILABLE] L5: 5 of 16

ABSTRACT:
Mice lacking expression of **CD28** or particular CD45 isoforms in certain cells of the immune system are provided. Also provided are methods of using these mice.

6. 5,596,072, Jan. 21, 1997, Method of refolding human IL-13; Janice Culpepper, et al., 530/351; 424/85.2; 435/69.1; 530/402, 412; 930/141 [IMAGE AVAILABLE]

US PAT NO: 5,596,072 [IMAGE AVAILABLE] L5: 6 of 16

ABSTRACT:

Nucleic acids encoding human IL-13, and purified IL-13 proteins and fragments thereof. Antibodies, both polyclonal and monoclonal, are also provided. Methods of using the compositions for both diagnostic and therapeutic utilities are provided.

7. 5,595,881, Jan. 21, 1997, Method for the detection of antigen presenting cells; Teresa Kendrick, et al., 435/7.21, 6, 7.24, 29 [IMAGE AVAILABLE]

US PAT NO: 5,595,881 [IMAGE AVAILABLE] L5: 7 of 16

ABSTRACT:
This invention provides a novel and rapid method for isolating MHC:antigen-restricted T cells. The method comprises the steps of (a) providing an isolated MHC:peptide complex wherein said complex is bound to a solid support; (b) contacting the complex with the biological sample containing T lymphocytes to form a MHC:peptide:T cell complex; (c) removing the MHC:peptide:T cell complex from the peripheral blood; and (d) separating the bound T lymphocytes from the MHC:peptide:T cell complex. The T-cells can be used to detect the presence, in a biological sample, of antigen presenting cells bearing a preselected MHC:antigen complex.

8. 5,580,756, Dec. 3, 1996, B7IG fusion protein; Peter S. Linsley, et al., 435/69.7, 91.1; 530/350, 387.1, 387.3, 395; 536/23.4 [IMAGE AVAILABLE]

US PAT NO: 5,580,756 [IMAGE AVAILABLE] L5: 8 of 16

ABSTRACT:
The invention identifies the **B7** antigen as a ligand that is reactive with the **CD28** receptor on T cells. Fragments and derivatives of the **B7** antigen and **CD28** receptor, including fusion proteins having amino acid sequences corresponding to the extracellular domains of **B7** or **CD28** joined to amino acid sequences encoding portions of human immunoglobulin C.gamma.1, are described. Methods are provided for using **B7** antigen, its fragments and derivatives, and the **CD28** receptor, its fragments and derivatives, as well as antibodies and other molecules reactive with **B7** antigen and/or the **CD28** receptor, to regulate **CD28** positive T cell responses, and immune responses mediated by T cells. The invention also includes an assay method for detecting ligands reactive with cellular receptors mediating intercellular adhesion.

9. 5,576,423, Nov. 19, 1996, Antibodies to the slam protein expressed on activated T cells; Gregorio Aversa, et al., 530/388.75; 424/154.1; 435/70.21, 172.3, 331, 343.2; 530/387.9, 389.6, 391.3 [IMAGE AVAILABLE]

US PAT NO: 5,576,423 [IMAGE AVAILABLE] L5: 9 of 16

ABSTRACT:
Purified genes which encode a T cell surface antigen from a mammal, reagents related thereto including purified proteins, specific antibodies, and nucleic acids encoding said antigen. Methods of using said reagents and diagnostic kits are also provided.

10. 5,571,515, Nov. 5, 1996, Compositions and methods for use of IL-12 as an adjuvant; Phillip Scott, et al., 424/208.1, 204.1, 234.1; 530/350 [IMAGE AVAILABLE]

US PAT NO: 5,571,515 [IMAGE AVAILABLE] L5: 10 of 16

ABSTRACT:
Improved vaccine compositions and methods of making the compositions are provided, which vaccines are characterized by an antigen from a pathogen and an effective adjuvanting amount of Interleukin-12 (IL-12). These IL-12 adjuvanted vaccines are capable of increasing the vaccinated host's cell mediated immune response to provide an increased and protective immune response to the pathogen. Also disclosed are methods for vaccinating hosts by administering a vaccine containing an antigen from a pathogenic microorganism and co-administering an adjuvanting amount of IL-12. Vaccines or therapeutic compositions directed against a cancer may also be adjuvanted with IL-12 according to this invention.

11. 5,557,032, Sep. 17, 1996, Knockout mice; Tak W. Mak, 800/2; 424/9.2; 435/172.3, 320.1; 800/DIG.1, DIG.4; 935/11, 70 [IMAGE AVAILABLE]

US PAT NO: 5,557,032 [IMAGE AVAILABLE] L5: 11 of 16

ABSTRACT:
Mice lacking expression of **CD28** or particular CD45 isoforms in certain cells of the immune system are provided. Also provided are methods of using these mice.

12. 5,525,503, Jun. 11, 1996, Signal transduction via **CD28**; Christopher E. Rudd, et al., 435/375; 530/330 [IMAGE AVAILABLE]

US PAT NO: 5,525,503 [IMAGE AVAILABLE] L5: 12 of 16

ABSTRACT:
Disclosed are compositions and methods of blocking T cell signal transduction by introducing into a T cell a peptide comprising a PI 3-kinase-binding-sequence which decreases the association of PI 3-kinase with **CD28**. Also disclosed are compositions and methods of amplifying T cell activation by introducing into a T cell, a plurality of modified T

cell surface proteins, the cytoplasmic tail of which comprises a plurality of copies of a PI 3-kinase-binding-sequence.

13. 5,521,288, May 28, 1996, CD28IG fusion protein; Peter S. Linsley, et al., 530/387.3; 435/7.2, 7.92, 69.1, 69.7, 91.1, 252.3, 252.33, 320.1; 530/300, 350, 387.1, 395, 409, 866, 867, 868; 536/23.1, 23.4, 23.53 [IMAGE AVAILABLE]

US PAT NO: 5,521,288 [IMAGE AVAILABLE] L5: 13 of 16

ABSTRACT:
The invention identifies the **B7** antigen as a ligand that is reactive with the **CD28** receptor on T cells. Fragments and derivatives of the **B7** antigen and **CD28** receptor, including fusion proteins having amino acid sequences corresponding to the extracellular domains of **B7** or **CD28** joined to amino acid sequences encoding portions of human immunoglobulin C.gamma.1, are described. Methods are provided for using **B7** antigen, its fragments and derivatives, and the **CD28** receptor, its fragments and derivatives, as well as antibodies and other molecules reactive with **B7** antigen and/or the **CD28** receptor, to regulate **CD28** positive T cell responses, and immune responses mediated by T cells. The invention also includes an assay method for detecting ligands reactive with cellular receptors mediating intercellular adhesion.

14. 5,474,897, Dec. 12, 1995, Screening assay for the identification ov novel immunosuppressives using cultured T cells; Arthur Weiss, et al., 435/6, 69.1, 70.4 [IMAGE AVAILABLE]

US PAT NO: 5,474,897 [IMAGE AVAILABLE] L5: 14 of 16

ABSTRACT:
A method for identifying compounds capable of inducing immunosuppression by inhibiting the **CD28** signal transduction pathway and T cell comprises exposing cultured T cells to one or more test compounds. The T cells are obtained from a T cell line which stably incorporates DNA sequence comprising in reading frame an enhancer region responsive to a **CD28**-regulated nuclear binding protein and a marker gene. The cells are cultured under conditions which result in activation of both the T cell receptor and the **CD28** receptor, resulting in enhanced expression of the marker gene. Test compounds which inhibit expression of the marker gene are considered as candidates for immunosuppressive drugs.

15. 5,434,131, Jul. 18, 1995, Chimeric CTLA4 receptor and methods for its use; Peter S. Linsley, et al., 514/2; 424/133.1; 514/12; 530/350, 866, 868; 935/10 [IMAGE AVAILABLE]

US PAT NO: 5,434,131 [IMAGE AVAILABLE] L5: 15 of 16

ABSTRACT:
The invention identifies the CTLA4 receptor as a ligand for the **B7** antigen. The complete amino acid sequence encoding human CTLA4 receptor gene is provided. Methods are provided for expressing CTLA4 as an immunoglobulin fusion protein, for preparing hybrid CTLA4 fusion proteins, and for using the soluble fusion proteins, fragments and derivatives thereof, including monoclonal antibodies reactive with **B7** and CTLA4, to regulate T cell interactions and immune responses mediated by such interactions.

16. 5,316,920, May 31, 1994, Lymphocyte activation antigen HB15, a member of the immunoglobulin superfamily; Thomas F. Tedder, et al., 435/69.3, 69.7, 320.1, 365; 530/350; 536/23.5, 23.53, 24.31 [IMAGE AVAILABLE]

US PAT NO: 5,316,920 [IMAGE AVAILABLE] L5: 16 of 16

ABSTRACT:
Lymphocyte activation antigen HB15, and the human cDNA and gene sequences encoding HB15, are disclosed. HB15 is not expressed at detectable levels by circulating leukocytes but has a unique pattern of expression among tissues. HB15 is uniquely expressed by Langerhans cells within the skin and other subpopulations of dendritic cells. Also disclosed are antibodies reactive with HB15 and methods of using anti-HB15 antibodies, or other antagonists to HB15 function, to treat an immunological disorder, disease or syndrome.

L34 ANSWER 4 OF 4 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 95-075236 [10] WPIDS
DNN N95-059580 DNC C95-033496
TI Nucleic acids encoding CTLA4/CD28 counter receptor, **B7-2** - useful for enhancing or suppressing T-cell mediated immune responses.
DC B04 D16 P14 S03
IN FREEMAN, G J; GRAY, G S; GREENFIELD, E; NADLER, L M; GREENFIELD, E R
PA (DAND) DANA FARBER CANCER INST INC; (REPK) REPLIGEN CORP
CYC 2
PI WO 9503408 A1 950202 (9510)* EN 175 pp
AU 9474052 A 950220 (9521)
EP 711345 A1 960515 (9624) EN
JP 09500788 W 970128 (9714) 220 pp
ADT WO 9503408 A1 WO 94-US8423 940726; AU 9474052 A AU 94-74052 940726; EP 711345 A1 EP 94-924017 940726, WO 94-US8423 940726; JP 09500788 W WO 94-US8423 940726, JP 95-505397 940726
FDT AU 9474052 A Based on WO 9503408; EP 711345 A1 Based on WO 9503408; JP 09500788 W Based on WO 9503408
PRAI US 93-101624 930726; US 93-109393 930819; US 93-147773 931103
AB WO 9503408 A UPAB: 950314
An isolated nucleic acid (NA) comprises a sequence encoding a peptide with activity of a B lymphocyte antigen (Ag), **B7-2**.

Also claimed are: (1) an isolated NA encoding a fusion protein, comprising a 1st sequence encoding a 1st peptide with **B7-2** activity, and a 2nd sequence encoding a 2nd peptide corresp. to a moiety which alters the solubility, binding affinity or valency of the 1st peptide; (2) a recombinant expression vector contg. the NA encoding the **B7-2** peptide; (3) a host cell transfected with the vector of (2), capable of directing the expression of the **B7-2** peptide; (4) an isolated, recombinant peptide having the activity of **B7-2**, expressed by the host cell of (3); (5) a tumour cell modified to express the T-cell costimulatory molecule, **B7-2**; (6) a pure preparation of a peptide with the activity of B lymphocyte Ag B7-3; (7) an antibody (Ab) specifically reactive with the peptide B-72; pref. monoclonal Abs (MAbs); (8) hybridomas HF2.3D1, HA5.2B7 and HA3.1F9; (9) a nonhuman, transgenic animal, contg. cells transfected to express peptide **B7-2**; (10) a nonhuman, knockout animal contg. cells with an altered gene encoding **B7-2**; and (11) a method for producing the **B7-2** peptide, comprising culturing a host cell in a medium, to express the peptide, and isolating the peptide from the medium.

USE - The **B7-2** peptide and fusion protein are useful in a pharmaceutical compsn. (claimed), for treating tumours in subjects when cultured with T-lymphocytes and tumour cells of the subjects. Altered forms of **B7-2** and the fusion protein, lacking the ability to deliver a costimulatory signal to cells are useful for inhibiting interactions between **B7-2** and its natural ligand on the surface of such cells to downregulate a T-cell mediated immune response when

administered in an amt. effective to inhibit T-cell proliferation and/or cytokine secretion in a subject. An Ab reactive with **B7-2** can also be used for the above purpose. Pref. an immunomodulating agent (e.g. Ab reactive with CD28, Ab reactive with CTLA4, AB reactive with cytokine or CTLA4 Ig fusion protein or CD28 Ig fusion protein), is administered along with the **B7-2** in the above use. An altered, inhibitory form of **B7-2** is also useful for treating autoimmune disease, **allergy** and inhibiting donor T-cell proliferation and/or cytokine secretion in a transplant recipient (to prevent graft-versus-host disease (GVHD)). Unaltered **B7-2** is useful for upregulating T-cell mediated immune responses by stimulating T-cell proliferation and/or cytokine secretion. Cells expressing the B

Dwg.0/20